



**CALAVERAS
COUNTY
WATER
DISTRICT**

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March 5, 2008

VIA EMAIL AND U.S. MAIL

Mr. Anand Mamidi
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive
Suite 200
Rancho Cordova, California 95670-6114

Re: CALAVERAS COUNTY WATER DISTRICT – COMMENTS ON REVISED TENTATIVE WASTE DISCHARGE REQUIREMENTS AND NPDES PERMIT FOR FOREST MEADOWS WASTEWATER RECLAMATION FACILITY.

Dear Mr. Mamidi:

The purpose of this letter is to provide the Regional Water Quality Control Board, Central Valley Region, ("Regional Board") with the Calaveras County Water District's ("District") comments on the revised Tentative Waste Discharge Requirements and NPDES Permit for the Forest Meadows Wastewater Reclamation Facility ("Tentative Permit") issued by your office on January 28, 2008. The District appreciates Regional Board staff's efforts in preparing the Tentative Permit, and the ability to address the issues presented herein,

Comment # 1: Requested Changes Regarding References to Hardness in Fact Sheet.

- a. The minimum recorded receiving water hardness is 8.4 mg/L CaCO₃, measured on October 27, 2004. Because the receiving water has lower hardness than the effluent, utilizing the minimum hardness of 8.4 mg/L in Equation 2 in the Tentative Permit (page F-15) will result in the limiting criteria.
- b. Fact Sheet, page F-15: Insert "33 mg/L as CaCO₃" in the last sentence in the last paragraph of the hardness discussion, after the phrase "... lowest reported effluent hardness."

- c. Fact Sheet, page F-15: Change the reference of "...maximum receiving water..." to "...minimum receiving water..." in the last sentence in the last paragraph of the hardness discussion.
- d. Fact Sheet, page F-24: Change the reference of "...highest recorded receiving water hardness..." to "...lowest recorded receiving water hardness..." in the second sentence of the first paragraph addressing Lead and confirm associated calculations.
- e. Fact Sheet, page F-31, Table F-4, footnote 5: Change the reference of "Maximum receiving water hardness..." to "Minimum receiving water hardness..."
- f. Please note that Table F-4 on Fact Sheet page F-31 is mis-numbered. This table should be labeled as "Table F-5." The remaining tables need to be corrected for proper numbering.¹
- g. Fact Sheet, page F-36, Table F-9, Footnote 1: Footnote 1 should include the phrase, "...and a minimum receiving water hardness of 8.4 mg/L as CaCO₃."

Comment # 2: Requested Changes Regarding Water Quality Criteria and Effluent Limitations for Aluminum

Based on the information set forth below, using the 304(a) chronic criterion of 87 µg/L for aluminum recommended in the USEPA's National Recommended Ambient Water Quality Criteria (NAWQC) is not appropriate for the receiving water to which the District discharges. The Tentative Permit should instead include Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL) for aluminum of 373 µg/L and 750 µg/L, respectively, based on the acute criterion recommended in USEPA's NAWQC for the protection of freshwater aquatic life. The Tentative Order should also include an annual average effluent limitation of 200 µg/L, based on the Secondary MCL for protection of the MUN beneficial use. The Tentative Order for the City of Modesto, also scheduled for adoption at the Regional Board's April 2008 meeting, imposes these limitations for aluminum for the same bases as discussed herein.² Thus, the District is simply requesting consistent application of water quality standards for aluminum.

Footnotes to the NAWQC contains the following quote as to the source of the 304(a) chronic criterion of 87 µg/L for aluminum:

"The value of 87 µg/L is based on a toxicity test with the striped bass in water with pH= 6.5-6.6 and hardness <10 mg/L. Data in "Aluminum Water-Effect Ratio for the 3M Plant Effluent Discharge, Middleway, West Virginia" (May 1994) indicate that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are not well quantified at this time."³

Based on available receiving water samples for the District's discharge, the minimum pH is 7.1 and the minimum hardness is 10 mg/L as CaCO₃. Aluminum water chemistry is highly dependent on pH.⁴

¹ Please also note, and change, the reference in the first full sentence on page F-28 from "See Table F-3, below" to "See Table F-4, below."

² http://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/cityofmodesto/modesto_wqcf_npdes_strike.pdf

³ <http://www.epa.gov/waterscience/criteria/wqcriteria.html#L2>

⁴ Water Chemistry, Snoeyink and Jenkins, John Wiley & Sons, Inc., New York, 1980.

While the minimum observed receiving water hardness is low, the minimum pH is considerably greater than the test conditions used to evaluate the 304(a) chronic criterion of 87 µg/L for aluminum.

Additionally, in May 2006, the Arid West Water Quality Research Project produced a research report, "Evaluation of the EPA Recalculation Procedure in the Arid West Technical Report," to update the NAWQC based on more recent data and to recalculate those NAWQC to reflect the resident species observed in receiving waters in the West. The report acknowledges the aluminum water chemistry in stating that, "speciation and/or complexation of aluminum is highly dependent on ambient water quality characteristics and ultimately determines the mechanism of toxicity." The resulting recalculated chronic criterion is a concave down, hardness dependent equation. Because the criterion is concave down, as with copper, selecting the minimum effluent hardness to calculate the criterion will ensure the intended level of protection for aquatic life. Inserting the minimum observed effluent hardness of 33 mg/L as CaCO₃, the Arid West Technical Report would result in a Total Aluminum chronic criterion of 360 µg/L. The report has yet to be approved by the EPA and is lacking independent scientific peer review.

For these reasons, the District believes at this time, it is not appropriate to apply the 304(a) chronic criterion of 87 µg/L for aluminum. Instead, the District believes it more appropriate to apply the 304(a) acute criterion recommended in USEPA's NAWQC for the protection of freshwater aquatic life and/or the Secondary MCL of 200 µg/L for protection of the MUN beneficial use, resulting in the effluent limitations described above.

Comment # 3: Request for Additional Time to Comply with Aluminum, Copper, Lead, and Zinc Effluent Limitations in Separately Issued Time Schedule Order.

The Tentative Permit requires compliance with final effluent limitations for aluminum,⁵ copper, lead, and zinc by May 18, 2010, the date the compliance schedule provision for CTR constituents sunsets in the State Implementation Plan ("SIP"). The District previously submitted to the Regional Board on October 22, 2007 an Infeasibility Analysis that outlined the steps the District would take to achieve compliance with the final limitations. A copy of this Infeasibility Analysis is enclosed herewith for your ease of reference. These steps include collection of additional influent and recycled water monitoring data (given the very limited data set available for development of the Tentative Permit), completion of the discharge conveyance facilities (likely in 2009), source control within existing collection and treatment facilities, performance of a CTR metals data evaluation, and implementation of additional actions identified as a result of the CTR metals data evaluation (additional source control, treatment, etc.). See Table 1 set forth in October 22, 2007 Infeasibility Analysis.

⁵ If the effluent limitations for aluminum are modified as discussed in Comment #2 above, no additional time beyond May 18, 2010 will be necessary for the District to achieve compliance. Furthermore, the District notes that the compliance schedule for aluminum appears to be linked to the sunset date of the compliance schedule provision for CTR constituents set forth in the SIP. However, effluent limitations for aluminum are not derived from the CTR/SIP, but rather, from the newly applied/newly interpreted Basin Plan narrative water quality objective for toxicity, applying USEPA's 304(a) criteria. See Fact Sheet at F-17 through F-19. For this reason, the Regional Board can provide a longer compliance schedule in the Tentative Permit for compliance with the existing aluminum effluent limitations. If the existing aluminum effluent limitations are retained, the District requests a compliance schedule of approximately 3 ½ years from the effective date of the Tentative Order (to December 31, 2011), consistent with the Infeasibility Analysis submitted to the Regional Board on October 22, 2007.

In order to complete these steps in an orderly fashion, the District requests a compliance schedule of three and one half (3 ½) years from the effective date of the Tentative Order (to December 31, 2011), consistent with the Oct. 2007 Infeasibility Analysis. The District realizes that due to the expiration of the compliance schedule provision for CTR constituents in the SIP that compliance schedules beyond May 18, 2010 will not be included within the Tentative Order. For that reason, the District requests that the Regional Board provide the additional time to comply (between May 18, 2010 and December 31, 2011) in a separately issued Time Schedule Order issued pursuant to Water Code section 13300, that also includes appropriate findings to shield the District from the attachment of mandatory minimum penalties to the underlying final effluent limitations consistent with Water Code section 13385(j)(3).

Comment # 4: Request to Modify Compliance Schedule Plans/Studies.

The District believes the compliance schedule plans for aluminum, copper, lead, and zinc required in Section IV.C.7.a.i. – iv. on page 25 of the Tentative Permit (corrective action plan, pollution prevention plan, and treatment feasibility study) are duplicative and excessive, and the compliance schedule of May 18, 2010 for the final effluent limitations provides almost no time to implement any additional actions identified in the plans. As such, the District re-iterates its request for additional time to comply, as set forth in Comment # 3 above.

The Tentative Order requires that the District prepare initial workplans within 3 months of the adoption of the Tentative Order and final plans within 1 year of the Executive Officer's approval of the initial workplan for the following three types of plans/studies: (1) corrective action plan (only one submittal within 3 months is required for this plan); (2) pollution prevention plan; and a (3) treatment feasibility study. The District believes the corrective action plan and the treatment feasibility studies are duplicative, and that the treatment feasibility study plan requirements at Section IV.C.7.a.ii. should be removed from the Tentative Order. Only one corrective action plan should be prepared to address compliance with the final effluent limitations for aluminum, copper, lead, and zinc, which would include any treatment modifications the District might employ. This corrective action plan should be submitted one (1) year after the Effective Date of the Tentative Order, to allow the District time to collect additional data necessary to evaluate performance/compliance with a more valid, statistically significant, data set, which will, in turn, dictate what corrective actions, if any, are actually necessary (as noted in Comment # 3 above and in the Oct. 2007 Infeasibility Analysis).

Furthermore, the District believes that the pollution prevention plan is unnecessary, as the District does not have any commercial or industrial users to evaluate in such a plan. Source control efforts within the existing collection and treatment facilities (the only "controllable" source that exists) can be discussed in the above-described corrective action plan (and the Regional Board can require this discussion to satisfy pollution prevention requirements). For this reason, the District believes the pollution prevention plan requirements at Section IV.C.7.a.iii. should be removed from the Tentative Order, and a more streamlined analysis of source control should be required in the sole submitted corrective action plan.

Finally, the District notes that if the plans/study provisions are retained, the District will have approximately five (5) months from completion of the plans to perform any actions identified therein.

For example, the treatment feasibility study set forth in Section IV.C.7.a.iv. requires the District to submit a workplan and time schedule for preparation of the study within three (3) months of the effective date of the Tentative Order. The effective date of the Tentative Order will be in June 2008 (50 days after adoption, per the MOA with USEPA, assuming adoption in late April 2008); thus, this first submittal is required by September 2008. The Executive Officer will need to review and approve the District's workplan and time schedule, which will likely take several months. For the sake of this example, the District will assume Executive Officer approval by January 2009. The Tentative Order then requires the treatment feasibility study to be completed within one (1) year of Executive Officer approval, which, in this case, would be January 2010. At that point, only five (5) months will remain in the compliance schedule to implement any actions identified in the treatment feasibility study. As the Regional Board is aware, modifications to treatment processes owned and operated by a public entity that require funding/financing, public bidding and contract award, CEQA compliance, construction, and the like, cannot be completed within five (5) months (consequently, most of the five months occur in the rainy season, which hampers certain types of construction projects). For these reasons, the District re-iterates its request for additional time to comply, as set forth in Comment # 3 above.

If you have any questions regarding the enclosed, please do not hesitate to contact me or Nicole Granquist at Downey Brand. Thank you for your continued assistance.

Sincerely,

Fred Burnett
Regulatory Affairs Manager

Enclosure

cc: David Andres, CCWD, w/out encl.
Nicole Granquist, Downey Brand LLP, w/out encl.
Mitch Mysliwicz, Larry Walker Associates, w/out encl.